

Exercise 3

If the order is reversed when composing two functions, can the result ever be the same as the answer in the original order of the composition? If yes, give an example. If no, explain why not.

Solution

Yes. For example, $f(x) = 5 + x$ and $g(x) = 6 + x$.

$$f \circ g = f(g(x)) = 5 + (6 + x) = 11 + x$$

$$g \circ f = g(f(x)) = 6 + (5 + x) = 11 + x$$